

Docket No.: 33226/936001; P8316  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
Alexander T. Garthwaite

Confirmation No.: 3291

Application No.: 10/679,559

Art Unit: 2187

Filed: October 6, 2003

Examiner: J. R. Golden

For: CONCURRENT INCREMENTAL GARBAGE  
COLLECTOR WITH A CARD TABLE  
SUMMARIZING MODIFIED REFERENCE  
LOCATIONS

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**PETITION UNDER 37 CFR §1.181 AND MPEP §1002.02(C)(4)**

United States Patent & Trademark Office  
MS Petitions  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant hereby petitions the Director to reverse an objection by the Examiner in this matter. A statement of facts and discussion of the issue before the Director is set forth below.

**STATEMENT OF FACTS**

Application Serial No. 10/679,559 (hereinafter the “559 Application”) was filed on October 6, 2003. As filed, the 559 Application included claims 1-28. In a Response to Office Action dated November 7, 2006, claims 1, 6, 8, 10, 11, and 22-24 were amended, and claims 15-21 were canceled. Currently, claims 1-14 and 22-28 are pending. Claims 1, 8, and 22 are independent. The remaining claims depend, either directly or indirectly, from claims 1, 8, and 22.

Independent claims 1, 8, and 22 refer to a method, system and computer readable media for tracking and summarizing modified references in a garbage collector operating concurrently with other applications, wherein a generation is partitioned into a group of memory sections and there are card table indicators associated with the group of memory sections if an application has written into or dirtied them. The method, system and media comprise, among other steps or features, atomically interrogating the indicators again, and if none are dirty “moving on to collect a next scheduled group of memory sections.” See 559 Application, claims 1, 8, and 22.

All of the pending claims were finally rejected under 35 USC § 112, first paragraph, in a Final Office Action dated February 7, 2007 (hereinafter the “Final Office Action”). Additionally, the Examiner objected to the drawings under 37 CFR § 1.83(a). An Early Response to the Final Office Action was filed on March 30, 2007. The Examiner’s findings with regard to both the rejection and objection were sustained in an Advisory Action dated April 12, 2007 (hereinafter the “Advisory Action”). A Notice of Appeal and Pre-Appeal Brief were filed on June 7, 2007. In response, the Notice of Panel Decision from Pre-Appeal Brief Review, dated November 2, 2007, directed Applicant to proceed to the Board of Patent Appeals and Interferences. On December 3, 2007, Applicant filed an Appellate Brief with the Board of

Patent Appeals and Interferences with regard to the rejection under 35 USC § 112, first paragraph.

#### REMARKS

A rejection of claims is reviewable by the Board of Patent Appeals and Interferences, whereas an objection and requirement to delete new matter is subject to review by petition under 37 C.F.R. § 1.181. *See* MPEP 1002.02(c)(4). After amendment, the Examiner objected to the drawings as failing to show every feature of the invention specified in the independent claims. *See* Final Office Action at pp. 2-3. This objection was reiterated in the Advisory Action. *See* Advisory Action at p. 2. Specifically, the Examiner asserts that the drawings fail to show “moving on to another group of memory sections distant from the next scheduled group.” *See* Final Office Action at p. 2. However, 37 CFR § 1.83(a), requires only that any *structural detail* that is *essential* for a proper understanding of the disclosed invention should be shown in the drawing. *See* MPEP 608.02(d) and *Ex parte Good*, 1911 D.D. 43, 164 O.G. 739 (Comm’r Pat. 1911)).

Applicant respectfully asserts that the ‘559 Application, and more particularly the drawings in the Specification, adequately describe the features and *structural detail* essential for a proper understanding of the disclosed invention. The “next scheduled group” recited in the claims refers to the next car in the train algorithm that is supposed to be evacuated and reclaimed, and the steps of this process are adequately demonstrated in the Specification. *See* ‘559 Application at pp. 22-25 and Figures 12A-12J. Applicant asserts that an additional graphical depiction of the collector “moving on to a memory section distant from the next scheduled group” when another application is executing in the next scheduled group would be unnecessary to reasonably convey the claimed invention to one skilled in the art.

The only *structural* detail of this process that could possibly be required in the drawings is the memory section and scheduled group, both of which are, in fact, shown in the '559 Application. For example, Figures 5-7 and 16 show memory sections and Figures 12A-12J show multiple cars that are collected in a scheduled order. *See, e.g.*, '559 Application at Figures 12A-12J, including cars numbered 1.1., 1.2, 1.3, etc. Further, it would be obvious to one skilled in the art, upon viewing Figures 12A-12J, that the collector *cannot* perform garbage collection in an area of memory that is currently being executed in by another application. Although such a concept is not a *structural* detail required to be shown in the drawings, it is implicit from the drawings that a collector must necessarily be "moving on" to another memory section.

#### CONCLUSION

In view of the above, the Applicant asserts that the drawings, as pending, satisfy the requirements of the rules outlined in 37 C.F.R. § 1.83(a). Accordingly, reversal of the objection is respectfully requested.

Applicant has included the petition fee set forth under 37 C.F.R. § 1.17(f). Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 03226/936001). If any other issues arise in connection with this petition, do not hesitate to contact the undersigned or his associates at the telephone number listed below.

Dated: January 22, 2008

Respectfully submitted,

By 

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